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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/608,263	06/30/2003	Yuichiro Hashimoto	520.42838X00	8297
20457	7590	12/19/2003	EXAMINER	
ANTONELLI, TERRY, STOUT & KRAUS, LLP 1300 NORTH SEVENTEENTH STREET SUITE 1800 ARLINGTON, VA 22209-9889			SOUW, BERNARD E	
			ART UNIT	PAPER NUMBER
			2881	

DATE MAILED: 12/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/608,263

Examiner

Bernard E Souw

Applicant(s)

HASHIMOTO ET AL.

Art Unit

2881

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 1203a 6) ☐ Other:

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), (JP 2002-372200), which papers have been placed of record in the file.

Specification

2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3, 5 and 7-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Doroshenko et al. (USPAT 5,399,857).

Doroshenko et al. disclose a mass spectrometer shown in Fig. 5, comprising:

(a) an ion source (electrospray ion source) shown on the left of Fig.5, as recited in Col.5/ll.63-65;

(b) an ion trap at the center of Fig.5, having a pair of endcap electrodes (labeled as ion entrance and ion exit end caps), and a ring electrode (labeled as ring electrode), for accumulating and ejecting the ions, as recited in Col.1/ll.29-68, Col.2/ll.1-68 and Col.3/ll.1-54;

(c) a gas introduction hole in the endcap electrode, as can be seen in Fig.5, for introducing an intermittently-introduced bath gas into the ion trap at a predetermined timing, as recited in Col.1/ll.29-68, Col.2/ll.1-68 and Col.3/ll.1-54; and

(d) a detector shown on the right hand side of Fig.5, for detecting the ions ejected from the ion trap, as recited in Col.1/ll.29-68, Col.2/ll.1-68 and Col.3/ll.1-54.

(e) the limitation that the center axis of the gas introduction hole is arranged so as to pass through the center of the ion trap is inherent in Doroshenko's, as is self-obvious in Fig.5.

► Regarding claim 2, Doroshenko's gas introduction hole is arranged in the ring electrode, as shown in the embodiment of Fig.4 and recited in Col.4/ll.54-60.

► Regarding claim 3, Doroshenko's gas introduction hole is arranged in one of the endcap electrodes, as can be seen in Fig.5, also recited in Col.4/ll.54-60.

- ▶ Regarding claim 5, Doroshenko's ion trap mass spectrometer is equipped with control unit for controlling an application timing of an RF voltage applied to the ring electrode based on the ion stability diagram depicted in Fig.2, as recited in Col.2/ll.5-8, also for controlling an introduction timing of the intermittently-introduced bath gas [from] to the gas introduction hole, and recited in Col.5/ll.51-62 and Col.6/ll.12-18.
- ▶ Claims 7-11 are method claims reciting limitations that are directly associated to the limitations of the previously rejected apparatus claim 1. Specifically, the limitations 1a and 1b are the same as the first two of claims 7-11, the limitations 1c & 1e are the same as the 3rd to 5th limitations of claims 7-11, whereas the limitation 1d is the same as the 6th limitation of claims 7-11. Consequently, claims 7-11 are also rejected under the same reason and prior art as applied previously to claim 1.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Doroshenko et al., as applied to claim 1 above, and further in view of Weinberger et al. (USPAT 2002/0195555 A1).

Doroshenko et al. show all the limitations of claim 4, as applied previously to the parent claim 1, except the recitation of the bath gas being introduced via a pulsed valve using a solenoid.

As matter of fact, automated introduction of gas pulses into a vacuum apparatus is conventionally conducted via a pulsed valve using a solenoid. This Official Notice is rendered obvious by Weinberger et al., as recited in section [0134].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to introduce Doroshenko's bath gas via a pulsed valve using a solenoid as taught by Weinberger et al., since that is the most common method for that particular purpose as well known in the art, for being easily integrated into an automated system, even in its simplest and most primitive form.

6. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Doroshenko et al., as applied to claim 1 above, and further in view of Ramsey et al. (USPAT 6,469,298).

Doroshenko et al. show all the limitations of claim 6, as applied previously to the parent claim 1, except the recitation of the distance from the front edge of the gas introduction hole to the center of the ion trap being less than 16 mm.

The specific dimension as claimed is a direct consequence of the well known dimensions of a quadrupole ion trap (QIT) mass spectrometer of conventional size, as disclosed by Ramsey in Col.2/ll.45-58 and Col.3/ll.5-32.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the distance from the front edge of the gas introduction hole to the center of the ion trap less than 16 mm, since that is the appropriate distance for a conventional QIT as generally known in the art.

The Federal Court held that, where the only difference between the prior art and the claims was a recitation of relative dimensions of the claimed device, and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device was not patentably distinct from the prior art device. *In re Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), *cert. denied*, 460 U.S. 830, 225 USPQ 232 (1984).

Communications

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bernard E Souw whose telephone number is 703 305 0149. The examiner can normally be reached on Monday thru Friday, 9:00 am to 5:00 pm..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John R Lee can be reached on 703 308 4116. The central fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306 for regular communications as well as for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308 0956.

bes

December 3, 2003


JOHN R. LEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800